Space Weather Forecast

Issued on Friday, 20 September 2024 at 13:29 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Chance of Moderate flares (R1/R2 Blackouts).

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Low with peak flare C2.6 at 19/1527 from the sunspot region in the southwest. This is a declining region, but maintains some complexity with a mixture of spot polarities. There are eight regions currently on the disc. The other regions remained relatively small and simple, but with the growth of a new simple region in the northwest, and a further new region rotating onto the southeast

No Earth-directed CMEs (coronal mass ejections) occurred.

Solar Wind / Geomagnetic Activity: Slightly disturbed solar winds continued to ease through the period. Solar wind speeds were Background to Slightly Elevated (350-450 km/s). Interplanetary Magnetic Field eased from Moderate at first to be mainly Weak. The north-south component Moderately southward but eased by 19/2100 UTC to vary weakly between both north and south directions. Geomagnetic activity was initially Unsettled to Active (Kp 3-4), but eased to be Quiet from 19/2100 UTC (Kp 0-1)

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) declined to background after the recent enhancements, with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low to Moderate activity is expected, with a chance of isolated Moderate-class flares.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Slight elevated solar winds are expected to ease to mainly background, but with a chance of slight enhancement on day 3-4 (22-23 Sep) from any interaction with the fast winds from a small coronal hole in the northwest. Mainly Quiet geomagnetic activity is forecast with isolated Unsettled intervals. There is a chance of Unsettled to Active intervals on day 3-4 (22-23 Sep) from any fast wind enhancement that occurs.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to be at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2024. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	Yes	1	1	5	5
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	50	50	50	50
Very Active	R3 to R5 X	No	5	5	5	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2024. All Rights Reserved.